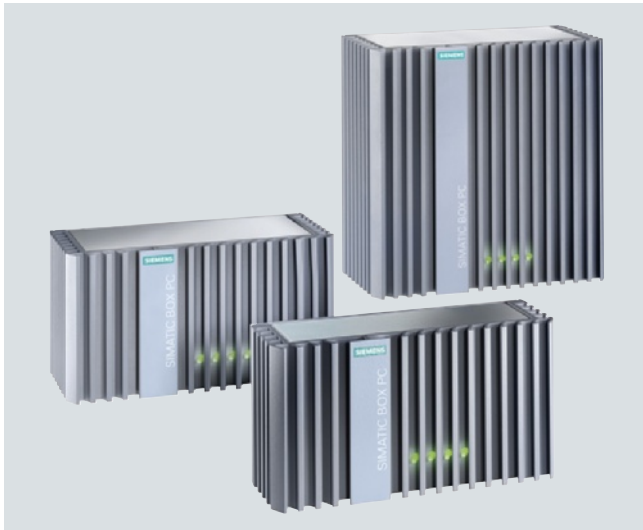


SIMATIC IPC227D



SIMATIC IPC227D available for implementing simple control, data collector or communication tasks:

- Maximum compactness with approx. 1 liter enclosure volume or more with integrated industrial power supply for minimum space requirements in the control cabinet
- Maximum flexibility thanks four mounting options and interfaces on one side suitable for every installation situation
- Optimum variety of interfaces due to a large number of integrated interfaces such as a selectable serial port (RS232/RS485/CAN) and 2 x teaming-capable Gigabit LAN
- Maximum industrial functionality due to closed enclosure for optimum dust protection and non-volatile retentive memory
- Further device options for optimum adaptation to the application with additional PCIe slot or RS232 interfaces or digital I/O

Design

Basic design

- All-metal enclosure, resistant to vibrations and shocks, also with high electromagnetic compatibility
- Onboard graphics, DVI (digital)
 - DVI-D resolution: Up to 1920 x 1200 pixels
- Optical drives can be connected externally via USB interface, not included in scope of supply
- Interfaces (accessible from one side):
 - 2 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45)
 - 4 x high-speed USB V2.0
 - 1 x COM1 (RS232)
- Fieldbus
 - PROFINET Realtime via Standard Ethernet interface
 - Isolated power supply: 24 V DC (20.4 to 28.8 V)

Design versions

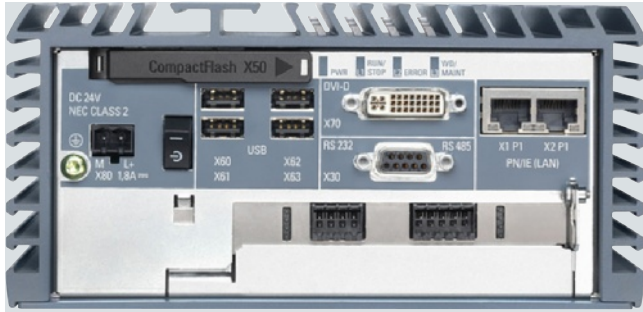
- Processor / main memory configuration:
 - Intel Atom E660 1.3 GHz, 2 GB RAM
 - Intel Atom E640 1.0 GHz, 1 GB RAM
 - Intel Atom E620 600 MHz, 512 MB RAM
- Retentive memory
 - 512 KB retentive memory (MRAM), 128 KB of which can be written to within the buffer time (optional)
- Hardware expansion as device versions:
 - COM2-4
 - 4 dig. inputs/outputs each, 24 V
 - 1 PCIe slot (x1)
- Drives:
 - CompactFlash drive (replaceable, accessible): 2 GB, 4 GB, 8 GB or 16 GB
 - Solid-State Drive 50 GB (High Endurance), 2.5"
 - Solid-State Drive 80 GB (Standard), 2.5"
 - Hard disk 250 MB Serial ATA, 2.5"
- Preinstalled operating systems:
 - Windows XP Embedded Standard 2009
 - Windows XP Professional Multi-Language
 - Windows Embedded Standard 7
 - Windows 7 Multi-Language, 32-bit

SIMATIC IPC227D (bottom side), basic version:



SIMATIC IPC227D (bottom side), COM version:



SIMATIC IPC227D (bottom side), IO version:**SIMATIC IPC227D (bottom side), PCIe version:****SIMATIC IPC227D bundles: HMI, RTX, RTX F and HMI/RTX**

HMI, RTX, RTX F and HMI/RTX complete turnkey solutions (the software is already preinstalled and configured) for visualization and automation in combination with WinCC RT Advanced and WinAC RTX 2010 /F

- Quick start in automation solutions with Embedded Automation
- HMI: SIMATIC WinCC RT Advanced preinstalled and ready to run
- RTX: SIMATIC WinAC RTX 2010 preinstalled and ready to run
- RTX F: SIMATIC WinAC RTX 2010 F preinstalled and ready to run
- HMI/RTX (F): SIMATIC WinCC RT Advanced and SIMATIC WinAC RTX 2010(F) preinstalled and ready to run
- PROFINET (RT) pre-configured for use in a SIMATIC environment
- Configuration and programming with SIMATIC WinCC Engineering System and SIMATIC STEP 7 via Industrial Ethernet
- Flexibility of a PC-based automation environment
- Open for additional PC applications
- Connection option for USB devices
- Use of WinAC ODK with SIMATIC WinAC RTX
- Data retentivity for WinAC RTX without uninterruptible power supply (UPS)

Expansion componentsSIMATIC IPC DiagMonitor

- PC diagnostics/alarm software for early detection and diagnostics of PC problems
- Comprehensive monitoring of temperature, watchdog
- Operating hours counter for preventive maintenance
- Integrated log functions, comprehensive text messages, on-line help (English/German)
- Network-wide monitoring via SNMP and OPC interface possible

SIMATIC IPC Image & Partition Creator

- Software tool for preventive data back-up of the contents of bulk storage (CF cards, hard disks, SSD)
- High-speed restoring of system and data partitions with bit accuracy; user software and special installations are also backed up
- Software tool for adaptation of mass storage partitioning

SIMATIC IPC Service USB FlashDrive

- Mobile memory medium for backing up/restoring mass memories
- Pre-installed Image & Partition Creator V3.1
- Ultra-compact and rugged

Technical specifications SIMATIC IPC227D

SIMATIC Box PC	SIMATIC IPC227D
Design	Rail, wall, portrait or side mounting
Processor	<ul style="list-style-type: none"> • Intel Atom E620 600 MHz, 512 MB RAM • Intel Atom E640 1.0 GHz, 1 GB RAM • Intel Atom E660 1.3 GHz, 2 GB RAM
Chipset	Intel Controller Hub EG20T
Buffered MRAM	512 KB, of which 128 KB can be written within the buffer time
Free slots for expansions	Optional PCIe expansion slot
Graphics	<ul style="list-style-type: none"> • Integrated into Intel Atom CPU E6xx • 8 to 256 MB (shared memory), 1920 x 1200, 60 Hz, 32-bit colors
Operating system	<ul style="list-style-type: none"> • without • Windows Embedded Standard 2009 preinstalled, in combination with CF card or solid-state drive or hard drive (optional) • Windows XP Professional MUI preinstalled (in combination with solid-state drive or hard drive; MUI: Multi Language User Interface) (optional) • Windows Embedded Standard 7, 32-bit, preinstalled, in combination with CF card or solid-state drive or hard drive (optional) • Windows 7 Ultimate MUI 32 bit preinstalled (in combination with solid-state drive or hard drive; MUI: Multi Language User Interface) (optional) • Linux ¹⁾ (project-specific, on request) • RMOS (project-specific on request) • Others on request project-specifically
Power supply	<ul style="list-style-type: none"> • 24 V DC (20.4 V ... 28.8 V) • Isolated • With buffering of temporary power failures: max. 10 ms • Line side switch • With power failure indication by means of Power Fail signal

SIMATIC Box PC	SIMATIC IPC227D
Drives	
Flash drive	Optional; replaceable, accessible, diagnosable <ul style="list-style-type: none"> • 2 GB • 4 GB • 8 GB • 16 GB
Solid State Drive (SSD)	Optional: <ul style="list-style-type: none"> • 50 GB SATA, High Endurance, 2.5" • 80 GB SATA, Standard, 2.5"
Hard disk	Optional 250 GB SATA
CD-ROM	Via USB (not included in scope of delivery)
DVD-RW	Via USB (not included in scope of delivery)
Floppy disk	Via USB (not included in scope of delivery)
Interfaces	
PROFINET	PROFINET RT via Standard Ethernet controller
PROFIBUS/MPI	-
Ethernet	<ul style="list-style-type: none"> • 2 x 10/100/1000 Mbit/s (RJ 45) • Two independent Intel Controllers: Intel 82574L / Intel Controller Hub EG20T • With teaming function
USB	V2.0/High Speed: 4 x
Serial	COM1 (V.24), optional COM2-4
DVI-I	1 x DVI-D
Keyboard	Via USB (not included in scope of delivery)
Mouse	Via USB (not included in scope of delivery)
Monitoring functions	
Temperature	<ul style="list-style-type: none"> • Processor temperature • Motherboard Messages can be evaluated by the application program

SIMATIC Box PC	SIMATIC IPC227D
Watchdog	<ul style="list-style-type: none"> Monitoring of program execution Monitoring time can be parameterized in software Can be parameterized for a fault or restart <p>Messages can be evaluated by the application program.</p>
Monitoring functions via the network	<ul style="list-style-type: none"> DiagBase SIMATIC IPC DiagMonitor <p>Remote monitoring capability for:</p> <ul style="list-style-type: none"> Watchdog Temperature Mass memory monitoring (SMART) System/Ethernet monitoring (Heart Beat) Runtime meter <p>Communication:</p> <ul style="list-style-type: none"> Ethernet interface (SNMP protocol) OPC for integration in SIMATIC software Configuration of client/server architectures Structure of log files
Ambient conditions	
Degree of protection to EN 60529 (front/rear)	IP20
Vibration load during operation	<p>Devices without hard disk:</p> <ul style="list-style-type: none"> Requirements according to: IEC 61131-2 Tested according to: IEC 60068-2-6, Test Fc 10-58 Hz: 0.0375 mm 58-200 Hz: 9.8 m/s² 10 x /axis <p>Devices with hard disk:</p> <ul style="list-style-type: none"> Requirements according to: IEC 61131-2 Tested according to: IEC 60068-2-6, Test Fc 10-58 Hz: 0.0375 mm 58-200 Hz: 4.9 m/s² 10 x /axis
Shock loading during operation	<p>Devices without hard disk:</p> <ul style="list-style-type: none"> Requirements according to: IEC 61131-2 Tested according to: IEC 60068-2-27, Test Ea 150 m/s², 30 ms shock duration <p>Devices with hard disk:</p> <ul style="list-style-type: none"> Requirements according to: IEC 61131-2 Tested according to: IEC 60068-2-27, Test Ea 50 m/s², 30 ms shock duration

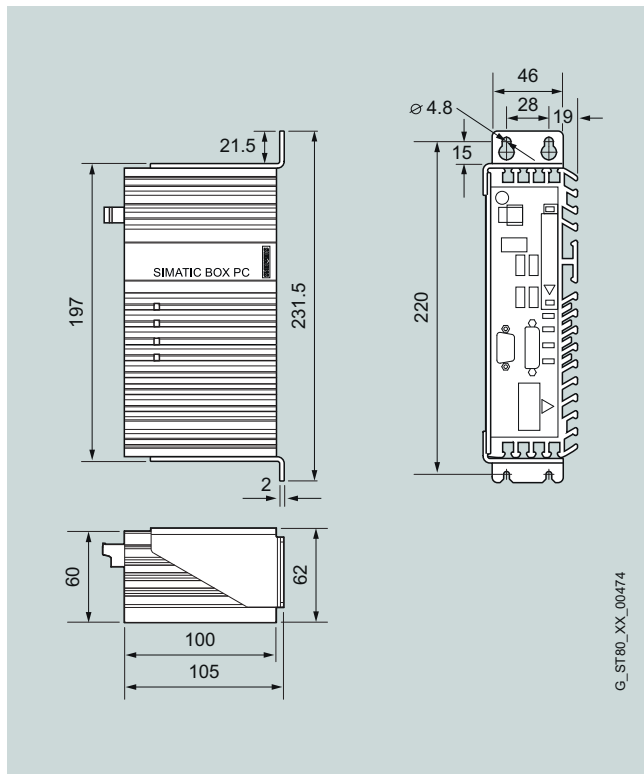
SIMATIC Box PC	SIMATIC IPC227D
Moist heat	<p>With CompactFlash card/SSD: 95 %</p> <p>With hard disk: 80 %</p>
Ambient temperature during operation	0 °C up to 50 °C
Electromagnetic compatibility (EMC)	
Emitted interference	EN 55022 Class B
Interference immunity, burst	<p>EN 61000-6-2 or IEC 61131-2:</p> <ul style="list-style-type: none"> 2 kV - tested acc. to IEC 61000-4-4 1 kV symmetrical / 2 kV asymmetrical - tested acc. to IEC 61000-4-5
Interference immunity, surge	<ul style="list-style-type: none"> 1 kV to IEC 61000-4-5; symmetrical 2 kV to IEC 61000-4-5; asymmetrical
ESD interference immunity	<p>According to NAMUR Recommendation NE 21 and EN 61000-6-2:</p> <ul style="list-style-type: none"> 6 kV contact discharge - tested acc. to IEC 61000-4-2 8 kV air discharge - tested acc. to IEC 61000-4-2
Immunity to high radio frequency interference	<p>According to EN 61000-6-2 or IEC 61131-2:</p> <ul style="list-style-type: none"> Interference immunity 80 ... 1000 MHz: 10 V/m with 80% AM (1 kHz); tested acc. to IEC 61000-4-3; 1.4 GHz ... 2 Hz: 10 V/m with 50% pulse modulation; tested according to IEC 61000-4-3
Immunity to high-frequency current feed	<p>Acc. to NAMUR Recommendation NE 21 and EN 61000-6-2 or IEC 61131-2:</p> <ul style="list-style-type: none"> 10 kHz ... 80 MHz: 10 V with 80% AM (1 kHz) tested acc. to IEC 61000-4-6
Immunity to magnetic fields	<p>Acc. to NAMUR Recommendation NE 21 and EN 61000-6-2 or IEC 61131-2:</p> <ul style="list-style-type: none"> 50/60 Hz; 100 A/m rms value - tested acc. to IEC 61000-4-8
Approvals	
Marine approval Only for configurations with CompactFlash or SSD memory	<ul style="list-style-type: none"> GL – Germanische Lloyd BV – Bureau Veritas LR – Lloyds Register of Shipping ABS – American Bureau of Shipping DNV – Det Norske Veritas NKK – Nippon Kaiji Kyokai

SIMATIC Box PC	SIMATIC IPC227D
Device versions	
Basic version	Width x Height x Depth: approx. 191 x 100 x 60 mm
COM	<ul style="list-style-type: none"> • 3 additional, integrated serial interfaces (COM2-4); only sending/receiving of data • Width x Height x Depth: approx. 191 x 100 x 89 mm
IO	<ul style="list-style-type: none"> • 4 digital inputs/outputs each, 24 V, integrated • Width x Height x Depth: approx. 191 x 100 x 89 mm
PCle	<ul style="list-style-type: none"> • 1 PCIe (x1) slot, integrated • Width x Height x Depth: approx. 191 x 187 x 89 mm

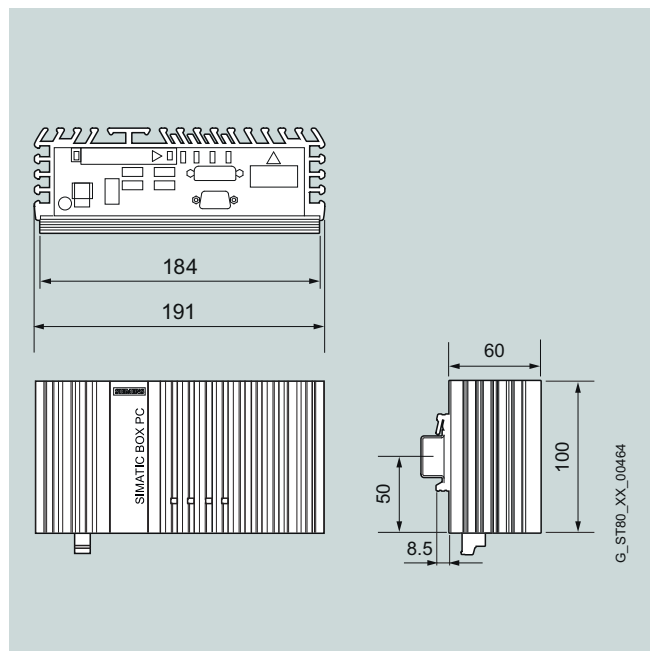
- 1) Suitable for specific LINUX versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for LINUX", see <http://www.siemens.de/simatic-pc/geeignet-fuer-linux> (LINUX is a trademark of Linus Torvald).

Dimensional drawings

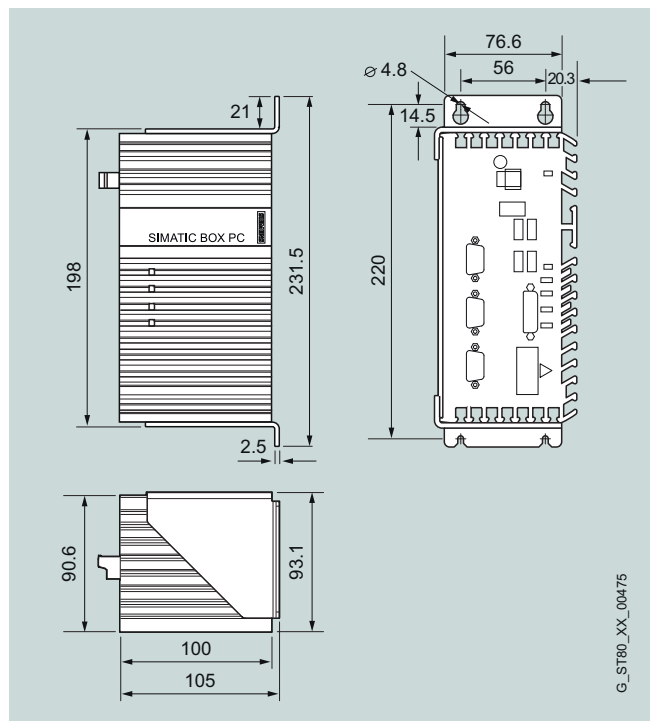
All dimensions in mm.



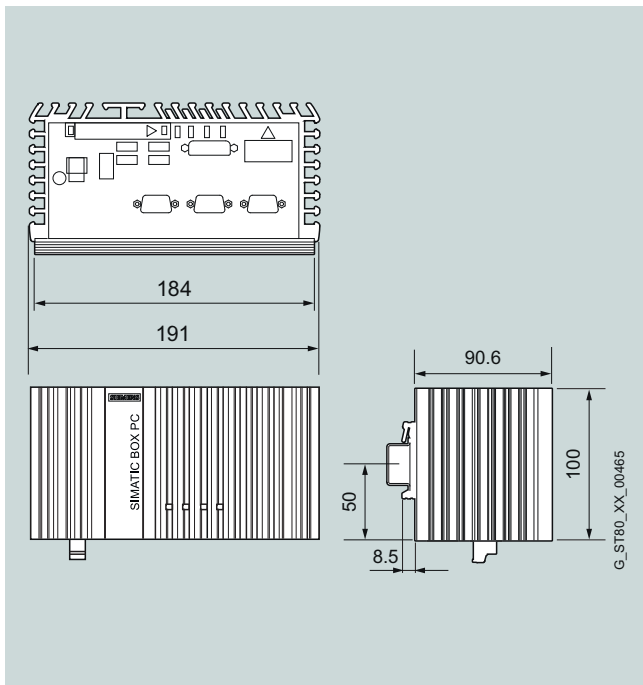
SIMATIC IPC227D basic unit, portrait mounting



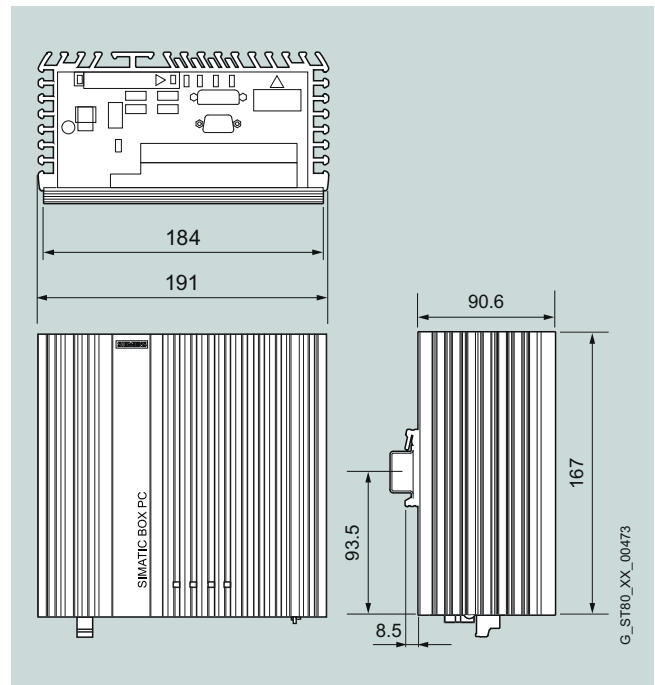
SIMATIC IPC227D basic unit, standard rail mounting



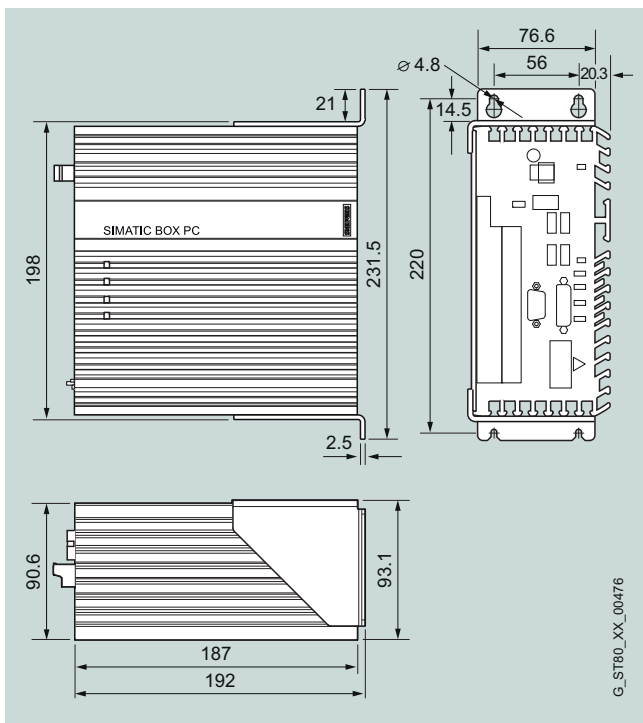
SIMATIC IPC227D COM version, portrait mounting



SIMATIC IPC227D COM version, standard rail mounting



SIMATIC IPC227D PCIe version, standard rail mounting



SIMATIC IPC227D PCIe version, portrait mounting

SIMATIC IPC – the more Industrial PC	
More information on SIMATIC IPC is available at:	www.siemens.com/simatic-ipc
A current overview of the configurations is provided by the SIMATIC IPC Online-Konfigurator:	www.siemens.com/ipc-configurator
In-depth information is available in the SIMATIC manuals:	www.siemens.com/simatic-doku
Information material for download:	www.siemens.com/simatic/printmaterial
Technical documentation is available in our Service& Support portal:	www.siemens.com/automation/support
Your personal contact partner is listed at:	www.siemens.com/automation/partner
Electronic ordering via the Internet with the Mall:	www.siemens.com/industrymall
Additional information on PC-based Automation with SIMATIC is available under:	www.siemens.com/pc-based-automation
Additional information on the TIA Portal:	www.siemens.com/tia-portal
Additional information on SIMATIC Safety Integrated:	www.siemens.com/f-cpu
Online Service Tool PED – for fast information on the equipment of your SIMATIC PC and the management of your field inventory:	www.siemens.com/ped